

### **REMARKS**

This responds to the Office Action mailed on February 22, 2005, and the references cited therewith.

Claims 1 and 15 have been amended, claims 10-14, being directed to a non-elected invention, have been withdrawn. Claim 21 has been added. No claims have been canceled. As a result, claims 1-9 and 15-21 are presently pending in this application.

### **Affirmation of Election**

Restriction to one of the following claims was required:

I. Claims 1-9 and 15-20, drawn to an integrated photonic device, classified in class 385, subclass 14.

II. Claims 10-14, drawn to a process to manufacture an integrated photonic device, classified in class 438, subclass 69.

As provisionally elected by Applicant's representative, **Daniel J. Long**, on February 10, 2005, Applicant elects to prosecute the invention of Group I, claims 1-9 and 15-20.

The claims of the non-elected invention, claims 10-14, are hereby withdrawn. However, Applicant reserves the right to later file continuations or divisions having claims directed to the non-elected inventions.

### **§102 Rejection of the Claims**

Claims 1-4, 15 and 20 were rejected under 35 U.S.C. § 102(e) as being anticipated by Ide (US 2003/0081922 A1). The Applicant respectfully traverses this rejection.

Figure 9B of Ide illustrates an optical waveguide having a first cladding 61, a first core 62, a second cladding 63, and a second core 64. A thinner portion of the second cladding 63 is additionally doped at 68, thereby serving as a connecting section 68 between the first core 62 and the second core 64.

Claim 1 of the present application recites a substrate, a photonic circuit etched into the substrate, a cladding layer positioned on said substrate, and an angled implantation disposed in

said cladding layer and connecting the photonic circuit with an outer surface of the cladding layer. Claim 1 has been amended to correct a typographical error. Specifically, the claim term “angle” in the fourth clause has been changed to “angled.” This change is not made for the purposes of narrowing the scope of claim 1.

Ide does not anticipate claim 1 of the present application because Ide does not disclose an angled implantation connecting a photonic circuit with an outer surface of a cladding layer. As illustrated in Figure 9A, the first core 62, partially doped portion 68, and second core 64 are positioned directly above one another, thereby forming a straight line. A straight line has no angle to it. Therefore, Ide does not disclose an angled implantation between a photonic circuit and an outer surface of a cladding, and consequently does not anticipate claim 1 of the present application. Since claims 2-4 are dependent on claim 1, they incorporate the angled implantation limitation of claim 1, and are also not anticipated by Ide.

Claim 15 has been amended to recite that the means that optically connects a photonic waveguide with an outer surface of a cladding is angled. Therefore, claim 15, in its amended form, like claim 1, is not anticipated by Ide. Since claim 20 is dependent on claim 15, it incorporates the angled means limitation of claim 15, and is also not anticipated by Ide. The Applicant respectfully requests the withdrawal of the rejection of claims 1-4, 15, and 20 as anticipated by Ide under 35 U.S.C. § 102(e).

Claims 15-17 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kuo et al. (US 5,446,814). The Applicant respectfully traverses this rejection.

Kuo et al. disclose a substrate 104, a photonic waveguide 113 with surfaces 117 and 118 and reflecting layers 119 and 120 respectively, and a cladding layer 126.

Claim 15 has been amended to recite that the means to optically connect the photonic waveguide and an outer surface of a cladding layer is angled and substantially forms a parallelogram. The basis for this amendment may be found in paragraph 9, and in Figures 1 and 2. The surfaces 117 and 118 of the photonic waveguide 113 in Kuo et al. are not parallel. Consequently, Kuo et al. do not anticipate claim 15 under 35 U.S.C. § 102(b). Since claims 16 and 17 are dependent on claim 15, thereby incorporating all of the limitations of claim 15, Kuo et al. do not anticipate claims 16 and 17 either. The Applicant respectfully requests the withdrawal of the rejection of claims 15-17 as being anticipated by Kuo et al. under 35 U.S.C. § 102(b).

§103 Rejection of the Claims

Claims 5, 8, 9, 18 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ide (US 2003/0081922 A1). The Applicant respectfully traverses this rejection.

Claims 5, 8, and 9 are either directly or indirectly dependent on claim 1, and include all the limitations of claim 1. Claims 18 and 19 are directly dependent on claim 15, and include all the limitations of claim 15. Since it was shown above that claims 1 and 15 were novel and patentable over Ide, and since claims 5, 8, 9, 18, and 19 incorporate all the limitations of claims 1 or 15, claims 5, 8, 9, 18, and 19 are themselves patentable over Ide.

Allowable Subject Matter

The Applicant gratefully acknowledges the indication in the Office Action that claims 6 and 7 contained allowable subject matter, and indeed would be allowed if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicant respectfully submits however that in light of the demonstration above that claims 1 and 15 are patentable over the prior art of record, claims 6 and 7, in their present dependent form, are patentable over the prior art of record.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at 703-867-8334 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0130.

Respectfully submitted,

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By Mark A. Wurm  
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 18<sup>th</sup> day of May, 2005.

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